



## PETERBOROUGH RAILWAY STATION



Peterborough is a major rail interchange, served by a complex mix of commuter and long-distance services linking the UK. The growth in passenger numbers has triggered a £43million improvement project at the station to handle the current and predicted future traffic expansion.

The Network Rail redevelopment will increase capacity through the station, with two new platforms constructed on the west side of the station for use by train services travelling the east-west routes. This will free-up the existing platforms for the north-south services. Platform 3 has also been widened and a completely new platform constructed to serve the high-speed services. Platforms 1, 2, 3, 4 and 5 are also being extended to accept future 12-car Thameslink services, which will provide direct connection from Peterborough to London and beyond to destinations further south. Peterborough already has substantial daily commuter traffic to London and when the improvements are completed, this is expected to grow.

Carillion Rail is the main contractor for this project, which also involved extensions and improvements to the main station footbridges to better serve the new platforms. In addition lifts are being added to provide step-free access from the station entrance to all platforms for the first time. These works will make travelling easier for everyone, especially those with reduced mobility, heavy luggage or with small children.

## FACTS

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**Material:** Leca® (10-20 mm)

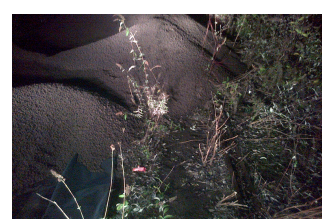
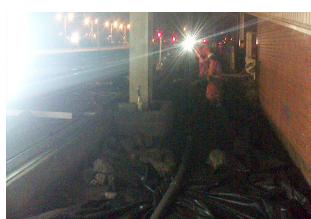
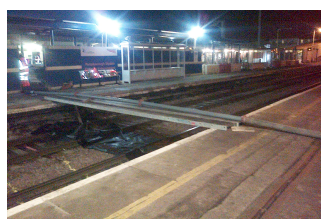
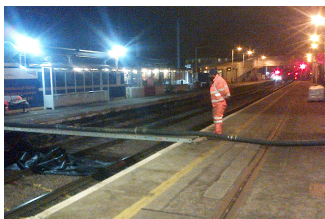
**Delivery Method:** Pneumatic Delivery

**Interesting Fact:** The specification of Leca® LWA has achieved significant savings in cost and programme.

**Main Contractor:** Carillion

Carillion were charged with keeping this busy station fully open during the works and whilst the construction of the new platforms would be straight forward once materials were in place, the substantial quantities of fill material that would need to be moved on weekend possessions of the track and through pedestrian areas over a long period caused concern. Restricted access issues meant that the heavy fill material would have to be moved by road rail excavators at weekends or manually via the platform overbridge, taking vast amounts of time and labour.

Project manager Keith Robertson was previously aware of Leca® LWA and decided that the product advantages would be of great benefit in this project. He comments: “Leca UK has provided a professional service and the specification of Leca® LWA has achieved significant savings in cost and programme. It had a major part to play in allowing us to complete the critical platform commissioning by Christmas 2013. Carillion and Leca have worked well together to achieve the platform backfilling in a series of short timeslots over the week and still allow the platforms to open at the end of each shift with minimal waste to clear up.”



Leca® LWA is a totally natural product. It is lightweight expanded clay formed by heating and firing natural glacial clay in a rotary kiln at temperatures up to 1150oC. This process transforms the clay into lightweight ceramic granules with a hard ceramic shell and porous core. The material is extremely light with a bulk density of just 0.3 tonnes per cubic metre. Leca® LWA has excellent insulation properties, is free draining, fire resistant, frost resistant and chemically inert with no hazardous properties.

Used as a lightweight aggregate fill in many civil engineering applications Leca® LWA reduces the weight on weak substrates and against retaining structures can reduce the weight loading by 75% over traditional fill. Leca® LWA eliminates expensive settlement delays, is easily handled and quickly installed.

The Leca® LWA was delivered to site using walking floor trailers for easy discharge. 500m<sup>3</sup> of the stockpiled material was then installed using the pneumatic delivery unit with a series of pipes coupled together enabling the Leca® LWA to be blown to the point of work across the tracks during short nightshift possessions between platforms 1 and 3.

“This easy installation system speeded up the project with the material put in place across the closed tracks over a period of just five nights with no additional plant required except for small Wacker plates to compact,” continues Mr Robertson. “As Leca® LWA is light, all the material grading was completed by hand which allowed it to be installed even with the adjacent fast line open between platforms 3 and 4. The Leca® LWA was then compacted into place ready to carry the relatively thin capping layer and platform surfaces.” A reduction in project time of around five weeks and a cost saving reported to be in excess of £20,000 has been estimated in comparison to alternative traditional methods.